

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number
WO 2005/000621 A1

(51) International Patent Classification⁷: **B60K 7/00**
(21) International Application Number:
PCT/JP2004/006706

(74) Agent: ITOH, Tadahiko; 32nd Floor, Yebisu Garden
Place Tower, 20-3, Ebisu 4-chome, Shibuya-ku, Tokyo,
1506032 (JP).

(22) International Filing Date: 12 May 2004 (12.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-181498 25 June 2003 (25.06.2003) JP

(71) Applicant (for all designated States except US): TOY-
OTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toy-
ota-cho, Toyota-shi, Aichi, 4718571 (JP).

(72) Inventor; and

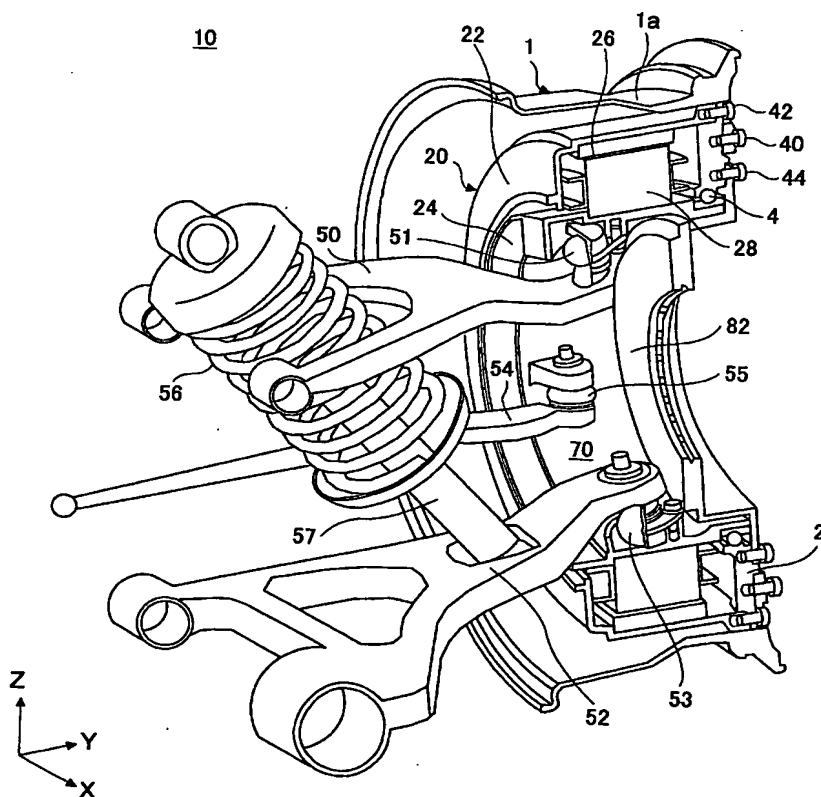
(75) Inventor/Applicant (for US only): MURATA, Satoshi
[JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA,
1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: SUSPENSION SYSTEM FOR SUSPENDING A WHEEL HAVING A MOTOR THEREIN



(57) Abstract: A suspension system (10) for a vehicle for suspending a wheel (1) is disclosed. An outer rotor type motor (20) is provided within the wheel (1). The motor (20) has a stator (28, 30) provided on an outer surface of a cylindrical member (24) that defines space (70) open to at least an inboard side of the vehicle, and a rotor (22, 26) rotatably supported by the cylindrical member (24). The wheel (1) receives the motor (20) and is connected to the rotor (22, 26). The mounting portions of suspension arms (50, 52, 54) are provided on an inner surface of the cylindrical member (24).



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — *with amended claims*
GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.